Contents: Environment, Safety, Health and Quality (Tier I) Inspections

Effective Date: **July 2004**

Point of Contact: Safety Engineering Group Leader

Section	Overview of Content (see section for full process)
Introduction	
1. Preparing for Conducting Environment, Safety, Health and Quality (Tier I) Inspections 2. Conducting Environment, Safety, Health and Quality (Tier I) Inspections	• Establish inspection team. • Prepare inspection schedule in advance. • Send schedule to team. • Assemble at predetermined location. • Inspect scheduled areas. • Correct conditions that can be addressed immediately. • Document deficiencies and observations. • Immediately address and correct any condition may result in imminent danger to personnel, equipment or the environment,
3. Documenting, Reporting, Mitigating, Tracking/Trending Environment, Safety, Health and Quality (Tier I) Inspections	• Develop mechanism for tracking/trending and mitigating deficiencies. • Prepare inspection report. • Send Tier I findings to Line Management and inspection results to Building Manager. • Address violations and observations to ensure timely close-out. • Designate representatives for ESH&Q Inspection Focus Workshops.
Definitions	
Exhibits	

Deficiency Category Table
Organizational ESH&Q Inspections: Minimal Suggested Frequency

Forms
None

Training Requirements and Reporting Obligations

This subject area contains training requirements. See the Training and Qualifications Web Site.

This subject area contains reporting obligations. See the section Conducting Environment, Safety, Health and Quality Inspections (Tier I) Inspections.

References

ES&H Standard 1.1.1, Price-Anderson Amendments Act Compliance Validation and Noncompliance Reporting Program

Investigation of Incidents, Accidents, and Injuries Subject Area

Lessons Learned Subject Area

Nonconformances, Identifying and Reporting Subject Area

Occurrence Reporting and Processing System (ORPS) Subject Area

Radiological Awareness Reports Subject Area

Spill Response Subject Area

Stop Work - Imminent Danger Procedures

Training and Qualifications Web Site

Standards of Performance

Managers shall, as appropriate, establish performance objectives, indicators and targets; conduct self-assessments to collect data and monitor progress; and evaluate the data to identify strengths and weaknesses in performance, and areas for improvement.

Managers shall perform "field walkthroughs" as a standard practice for assessing performance and identifying areas for improvement.

Managers shall establish, implement, and track appropriate actions to correct weaknesses in performance and areas for improvement.

Management System

Management System

This subject area belongs to the **TBD** management system.

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Introduction: Environment, Safety, Health and Quality (Tier I) Inspections

Effective Date: **July 2004**

Point of Contact: Safety Engineering Group Leader

This subject area establishes requirements at Brookhaven National Laboratory (BNL) for Line Organization Environment, Safety, Health and Quality (Tier I) Inspections of work areas. (Tier I indicates the level of activity by line organizations, with additional tiers being at the Laboratory-level, and external). The subject area provides the framework for organizations to communicate and track to closure ESH&Q deficiencies and observations identified during their walk-through inspections of work areas at the Laboratory

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Subject Area: ***Environment, Safety, Health and Quality (Tier I) Inspections***

1. Preparing for Conducting Environment, Safety, Health and Quality (Tier I) Inspections

Effective Date: **July 2004**
Point of Contact: Safety Engineering Group Leader

Applicability

This information applies to BNL staff and non-BNL staff who schedule/participate in organizational ESH&Q inspections of work areas.

Required Procedure

Line organizations (Departments/Divisions) are responsible for the periodic self-inspection of their work areas for ESH&Q vulnerabilities using capable and qualified staff within the organization as members of the inspection team. The organizational management selects staff that is deemed to be experienced in the operations/hazards, knowledgeable in aspects of the Laboratory ESH&Q requirements, or trained to work within the ES&H envelope. Timely resolution of findings is a requisite step in the self-inspection process. Worker/Supervisor attendance allows deficiencies to be corrected on the spot, or observations/guidance verbally given or clarified.

Step 1	The Line Organization's Responsible Manager designates the Team Leader and determines the level of training required by team appointees to be able to recognize hazards and compliance violations. The core team may vary, but typically includes the ESH Coordinator (possibly acting as the Team Leader), Facility Support Representative, the Environmental Compliance Representative, Building Manager/Alternate, subject matter experts (e.g., from Safety Engineering, Industrial Hygiene), or other knowledgeable person(s) as appropriate. Whenever possible, principal Investigators/supervisors, line management, and workers participate in organizational inspections.

	The Team Leader or designee is responsible for scheduling, conducting, and documenting/recording the inspections. For areas requiring quarterly inspections (i.e., work sites, laboratories/industrial areas) at least one member of the team, typically the Team Leader/ESH Coordinator, must have completed either the OSHA General Industry 10-hour or 30-hour course as a minimum requirement. See the Training and Qualifications Web Site.
Step 2	The Team Leader or designee prepares the inspection schedule in advance. The schedule is sent to the team members as well as key facility occupants, organizational management, and SMEs as appropriate. Administrative areas are inspected annually, and laboratories, industrial areas, and work sites are inspected quarterly. Administrative areas within laboratories, warehouses, and maintenance areas are included in the quarterly requirements. These areas may be inspected less frequently if data results are documented elsewhere, (possibly supplemented by hazard analysis and management walk-throughs), or if dictated by other needs. Exemptions may be approved by the Deputy Director for Operations or the Laboratory Director. See the exhibit Organizational ESH&Q Inspections: Minimal Suggested Frequency. Organizations/areas may have restrictive access requirements. If there are specific requirements, the Team Leader includes the pertinent information with the schedule or notice sent.
Step 3	The Team Leader sends a reminder before the inspection, as appropriate. Team members are to notify the Team Leader or designee of any scheduling conflicts. Team members may send designees in their stead.

Guidelines

Before the inspection walk-through, the team may decide to meet briefly to review the audit history of the work site and discuss prior findings. A special focus for that particular inspection may be identified.

Note: Team members should be rotated (where possible) to ensure widespread understanding of ESH principles and BNL requirements, as well as improving communication and lessons learned.

References

Training and Qualifications Web Site

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Subject Area: ***Environment, Safety, Health and Quality (Tier I) Inspections***

2. Conducting Environment, Safety, Health and Quality (Tier I) Inspections

Effective Date: **July 2004**
Point of Contact: Safety Engineering Group Leader

Applicability

This information applies to BNL staff and non-BNL staff who conduct organizational ESH&Q inspections of work areas.

Required Procedure

Qualified teams conduct the inspections, identifying deficiencies/observations to be communicated to responsible individuals/organizations for corrective actions, as appropriate.

Step 1	The Team assembles at a predetermined location per schedule/notice. Each team member is responsible for ensuring they have met training and access requirements (e.g., required personal protective equipment (PPE), dosimetry), as sent to them by the Team Leader) for the areas they will access.
Step 2	The Team Leader ensures access to the areas scheduled for inspection (including storage areas). Inspections are performed for all areas scheduled. If an area cannot be inspected as scheduled, it is noted and a follow-up inspection is arranged, as appropriate. In cases where a specific issue requiring ESH expertise was identified, the organization performing the ESH&Q Inspection may choose to seek help from Subject Matter Experts, if available. Principal investigators/Supervisors or an alternate need to be present in areas with special hazards/risks. Rescheduling may be necessary as deemed appropriate by the Team Leader.
Step 3	Correct conditions that can be addressed immediately. Discuss issues and

	possible corrective actions with staff as appropriate, to enhance staff knowledge. Team members document deficiencies and observations in sufficient detail (description, location, etc.) to allow timely corrective actions. Refer to the exhibit Deficiency Category Table for common inspection deficiencies. **Note:** This table is a guideline for tracking purposes. There are twenty categories, which should be part of the inspection if they apply. The bulleted items below each category are suggestions for where to place such findings, not requirements.
Step 4	Any condition that, in the opinion of the Inspection Team, may result in imminent danger to personnel, equipment or the environment, is immediately addressed and corrected. If necessary, the inspection team may order a “Stop Work” until the condition is corrected. See Stop Work - Imminent Danger Procedures. **Note:** The Inspection Team also considers initiating reporting , as appropriate. See the following subject areas: Occurrence Reporting and Processing System (ORPS); Investigation of Incidents, Accidents, and Injuries; Spill Response; Radiological Awareness Reports; Nonconformances, Identifying and Reporting; and /or Lessons Learned. See also ES&H Standard 1.1.1, Price-Anderson Amendments Act Compliance Validation and Noncompliance Reporting Program.

Guidelines

As applicable, the Inspection Team

- Reviews the most recent inspection findings;
- Discusses any occupational injuries and illnesses and/or occurrence reports specific to that area or a similar one, corrective actions, and lessons learned;
- Identifies potential hazards in the area.

It is strongly suggested that Principal Investigators/Supervisors be present when their areas are being inspected, to facilitate immediate corrective actions, answer questions, etc.

References

ES&H Standard 1.1.1, Price-Anderson Amendments Act Compliance Validation and Noncompliance Reporting Program

Investigation of Incidents, Accidents, and Injuries Subject Area

Lessons Learned Subject Area

Nonconformances, Identifying and Reporting Subject Area

Occurrence Reporting and Processing System (ORPS) Subject Area

Radiological Awareness Reports Subject Area

Spill Response Subject Area

Stop Work - Imminent Danger Procedures

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Subject Area: ***Environment, Safety, Health and Quality (Tier I) Inspections***

3. Documenting, Reporting, Mitigating, Tracking/Trending Environment, Safety, Health and Quality (Tier I) Inspections

Effective Date: **July 2004**
Point of Contact: Safety Engineering Group Leader

Applicability

This information applies to BNL staff and non-BNL staff who report and follow up on findings and corrective measures related to ESH&Q Inspections.

Required Procedure

Clearly identified deficiencies distributed to responsible persons ensure timely resolution. Organizations document and track deficiencies to closure, and assess their program and performance for continual improvement. Organizations may develop their own procedures as necessary, not in conflict with this subject area. Each organization maintains records of its inspections.

Step 1	Line management develops a mechanism to • Track deficiencies to closure; • Address repeat violations; • Track/trend performance for continual improvement; • Create and maintain inspection and corrective action records in compliance with the Records Management System; • Ensure participation/representation in the ESH&Q (Tier I) Inspection Focus Groups.

Step 2	After the inspection, the Team Leader or designee compiles all deficiencies. Forward pertinent information in a timely manner to individuals responsible for corrective actions. Include the following in the inspection report: • Areas inspected and date of the inspection; • Names of the inspection team members, and any non-official members in attendance; • Open deficiencies from previous inspections identified as repeat items; • New deficiencies, specifically identified with enough information to identify the hazard and specific location; • Recommended corrective actions as applicable and the party responsible for corrections; • Assigned deficiency category (optional) See the exhibit Deficiency Category Table.
Step 3	The Team Leader or designee sends Tier I findings to Line Management. Send inspection results to the Building Manager(s).
Step 4	Responsible individuals/organizations address violations and observations to ensure timely close-out. If additional guidance is required, the responsible individual contacts a member of the team, or ESH&Q staff, as appropriate.
Step 5	The Quality Management Office (QMO) requests a summary of Tier I findings based on the Deficiency Category Table before regularly scheduled Tier I Inspection Focus Group Workshops. QMO facilitates these workshops, with participation by organizational representatives.
Step 6	Line Management designates knowledgeable representatives at the Directorate or Department/Division level, as appropriate, to participate in the regularly scheduled ESH&Q Inspection Focus Workshops. This process of facilitated workshops will enable tracking/trending and identification of issues at the Laboratory-level, using summaries, additional data and expertise of personnel participating. A copy of the Focus Workshop Action Items Report must be submitted to the Assistant Laboratory Director (ALD) for ESH&Q. The objective is to drive and sustain improvement, and action items are tracked via the Institutional ATS. See the exhibit Organizational ESH&Q Inspections: Minimum Suggested Frequency.

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Subject Area: ***Environment, Safety, Health and Quality (Tier I) Inspections***

Deficiency Category Table

Effective Date: **July 2004**

Point of Contact: Safety Engineering Group Leader

The Deficiency Category Table is provided as a Word file.

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DEFICIENCY CATEGORY TABLE

HOUSEKEEPING

- General housekeeping;
- Waste container - design, availability;
- Egress paths, i.e., floors, aisles, emergency egress;
- Excessive storage;
- Sanitary conditions of eating/food prep areas;
- Areas free of insects, rodents, pests;
- Maintenance issues.

WORKING ENVIRONMENT: PLANT

- Adequacy of general ventilation, heat &/or AC;
- Appropriate lighting;
- Walking and working surfaces;
- Emergency shower/eyewash annual inspection;
- Emergency lighting;
- Appropriate warning signs/postings;
- Fall protection as required.

WORKING ENVIRONMENT: DEPARTMENT

- Fume hoods – inspection, labeling, use;
- Eyewash routine flush;
- Hazard Information Placards – correct/complete;
- EXIT signs posted appropriately;
- Proper storage of heavy equipment/materials;
- Refrigerators/freezers -labeled& functioning;
- Appropriate warning signs/postings;
- Ladders – fixed & portable in compliance;
- Appropriate emergency planning postings.

OUTSIDE and GROUNDS

- Access to buildings;
- Condition of stairs, ramps walkways;
- Modular building/trailer skirts intact;
- Grounds free of waste and debris;
- Condition/contents of waste bins;
- Building perimeter and rooftop maintenance area condition;
- Exterior equipment;
- Outside storage;
- Exterior lighting;
- Condition of emergency doors;
- Building security;
- External pests.

DEFICIENCY CATEGORY TABLE

FIRE SAFETY

- Flammable/combustible materials – storage & compliance;
- Fire doors – operable, inspected, labeled;
- Fire extinguisher –type placement, condition;
- Sprinkler heads – free of obstruction, adequate placement;
- Availability and proper use of approved flammable liquids storage cabinets;
- Missing ceiling tiles (>10%);
- Fire wall penetrations;
- Cutting and welding areas.

ELECTRICAL SAFETY: DISTRIBUTION

- Electric distribution panels – labeling, installation, accessibility, missing knockouts;
- Loose and missing covers on panels, raceways or outlets;
- Emergency disconnect switches – labeling, accessibility;
- Electrical outlets – adequacy;
- Improper grounding;
- Exposed conductors;
- Soft cords used as permanent wiring;
- Cable trays overloaded;
- Unsecured junction box;
- GFCI protection within 6 ft. of sinks/wet areas.

ELECTRICAL SAFETY: EQUIPMENT

- Condition of electric cords, cascaded power strips or extension cords;
- Hand tools not grounded or double insulated;
- Frayed power cords, extension cords, or heater tapes;
- Ungrounded plugs;
- Missing knockouts;
- Illegal extension cord use;
- Lack of strain relief;
- Missing covers/exposed wires.

ELECTRICAL SAFETY: PROGRAMMATIC

- Wiring in hazardous areas reviewed & in compliance;
- Working hot violations;
- Imminent danger electrical items;
- LO/TO compliance.

CHEMICAL SAFETY: LABELING

- Chemical contents/hazard label;
- Labels legible and in English;
- CMS bar coding;
- Peroxide forming chemicals – monitored and date-labeled;
- Carcinogens labeled.

DEFICIENCY CATEGORY TABLE

CHEMICAL SAFETY: USE

- Work area appropriate for level of hazard;
- Hood sash at proper height;
- Carcinogen, reproductive hazard &/or acute toxin requirements met;
- Lead wrapped/painted and labeled;
- Substitution of less hazardous chemical.

CHEMICAL SAFETY: STORAGE

- Area postings;
- Segregation of incompatibles;
- Container condition;
- No chemicals stored in hood;
- Secondary containment (e.g., trays) as required;
- Explosion proof and flammable cabinet/refrigerator/freezer as required;
- Legacy storage.

PERSONAL PROTECTIVE EQUIPMENT

- Eye protection – condition, availability and use;
- Proper footwear in labs/industrial areas, safety shoes, etc.;
- Protective clothing in hazard areas;
- Hearing protection – use, availability and condition in high noise areas;
- Hard hat and safety shoe posting and use as required;
- Respirator – selection;
- Gloves use and condition;
- Face shield and gloves for cryogens, use and condition;
- Protective goggles for Lasers.

COMPRESSED GAS / CRYOGENS

- Storage and handling of cylinders;
- Hydrostatic testing date not exceeded;
- Monitors/gauges properly calibrated & used (e.g., CO, O_2, etc.);
- Oxidizers separate from flammables;
- Cylinders individually secured;
- Cylinders capped when not in use;
- Cylinders missing tags;
- Cylinders stored on carts;
- Cryogen storage and use;
- Equipment/piping appropriate for cryogen use;
- ODH posting as required.

BIOHAZARDS

- Labeling;
- Proper procedures are followed;

- Committee approval as required;
- Storage, posting as required.

RADIATION SAFETY
- Area posting;
- Radiation levels current;
- Proper storage and labeling of sources and rad materials;
- Access controlled where required;
- Radiation Work Permits current, posted and utilized;
- X-ray compliance - posting, interlock, log;
- Current calibration of survey and dosimetry equipment;
- Survey required/out-of-date;
- Sealed source inventory current available;
- Custodian assigned (RMA, sealed source, etc.).

WASTE
- 90-Day Collection Area – posting, contingency plans, container labeling, segregation, containment, secondary containment, storage, time limits, weekly inspection logs;
- Satellite Accumulation Areas – posting, open container, container labeling, secondary containment, segregation, non-waste items;
- Radioactive Waste Accumulation Area – posted, proper storage, labeling, time limit, monthly inspection log;
- Battery collection – posting, segregation;
- Oily waste receptacle available/used;
- Solder recycle;
- Regulated medical waste noncompliance;

ENVIRONMENTAL
- No hazardous materials by sinks/floor drains;
- Evidence of spills;
- Secondary containment where appropriate;
- Sink disposal posting;
- No hoses hanging below sink rim;
- Faucets equipped with vacuum breakers where needed;
- Compliance with air emissions permits, logs up-to-date;
- Environmental monitoring equipment functioning/maintained/calibrated;
- Article 12 compliance, e.g., Tank inspection log.

MACHINE SHOP SAFETY
- Current posting of authorized personnel;
- Machine guarding compliance;
- Machines secured as appropriate;
- General machine condition;
- Auto restart as appropriate.

DEFICIENCY CATEGORY TABLE

MATERIAL HANDLING and EQUIPMENT SAFETY

- Material handling equipment – operation, maintenance, inspection (i.e., cranes, slings);
- Pressure vessel safety;
- Autoclave warning posting;
- High-temp ovens/furnaces posting & installation;
- Forklift safety.

INDUSTRIAL HYGIENE ISSUES

- Hazard assessments required where appropriate;
- Ergonomic concerns not addressed;
- High noise areas - assessed & posted;
- Hazard specific monitoring required.
- RF/Microwave;
- Magnetic Fields;
- UV;
- Laser SOP/registration available and up-to date;
- Interlock testing/logbook up-to-date.

Subject Area: ***Environment, Safety, Health and Quality (Tier I) Inspections***

Organizational ESH&Q Inspections: Minimal Suggested Frequency

Effective Date: **July 2004**
Point of Contact: Safety Engineering Group Leader

Organizational ESH&Q Inspections: Minimal Suggested Frequency is provided as a Word file.

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Organizational ESH&Q Inspections: Minimum Suggested Frequency

Area Description	Activity in Area/Qualifier	Minimum Suggested Frequency	Responsible Organization
Outside of Buildings	Grass, stairs, walkways, doorways	Annually	Occupant of Building
	Loading docks, storage tanks	Quarterly	Occupant of Building
Administrative Areas	Offices, common areas (lunch rooms, meeting rooms, restrooms)	Annually	Occupant of Area
Mechanical Equipment Areas (Coordinate with Plant Engineering Maintenance Management Center [MMC])	Utility closets	Annually	Occupant of Area
	Rooms with HVAC, compressors, water supply, and other physical hazards (need to be conducted between Bldg. Owner and Plant Engineering)	Semi-annually	1 x by Occupant of Area 1 x by Plant Engineering
Non-occupied Storage Areas	Storage portion of basement	Annually	Occupant of Area
Experimental Areas	Electrical and radiation hazards only, Chemical use areas	Quarterly	Occupant of Area
	Laboratories (non-chemical)	Quarterly	
	Laboratories with chemical use	Quarterly	
	Beam lines	Semi-annually	
Support Areas	Tunnels, high bay areas	Semi-annually	
	Experimental power supply houses, rooms	Semi-annually	
Manufacturing Areas	Parts manufacturing and assembly areas, welding areas	Quarterly	Occupant of Area
Shops	Shops with chemical or physical hazards-e.g., machining, painting)	Quarterly	Occupant of Area

Definitions: Environment, Safety, Health and Quality (Tier I) Inspections

Effective Date: **July 2004**

Point of Contact: Safety Engineering Group Leader

Term	Definition
deficiencies	Findings that need to be addressed to maintain a workplace that meets BNL ESH&Q expectations, and typically falls below the threshold of other SBMS reporting mechanisms.
ESH&Q Inspections (Tier I)	Scheduled Environment Safety Health and Quality workplace inspections conducted by BNL Line Organizations.
observations	Noted opportunities for improvement.
qualified	Recognized by the line organization as competent to identify hazards.

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Revision History: Environment, Safety, Health and Quality (Tier I) Inspections

Point of Contact: Safety Engineering Group Leader

Revision History of this Subject Area

Date	Description	Management System
July 2004	This subject area describes the procedures for preparing for conducting Environment, Safety, Health and Quality (Tier I) Inspections; conducting them; and documenting, reporting, mitigating, tracking, and trending them. This subject area replaces ESH Standard 1.2.0 Departmental Environment, Safety & Health Inspections. The drivers for this subject area are OSHA Standards 29 CFR 1910 and 29 CFR 1926, and DOE Order 440.1A, Worker Protection Management for Federal and Contractor Employees.	Worker Safety and Health

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